

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
13 October 2005 (13.10.2005)

PCT

(10) International Publication Number  
**WO 2005/094314 A2**

(51) International Patent Classification: Not classified

(21) International Application Number: PCT/US2005/010380

(22) International Filing Date: 25 March 2005 (25.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/556,564 26 March 2004 (26.03.2004) US

(71) Applicant (for all designated States except US): THE BURNHAM INSTITUTE [US/US]; 10901 N. Torrey Pines Road, La Jolla, CA 92037 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): FENG, Gen-Sheng [US/US]; 8840 Costa Verde Blvd., #3330, San Diego, CA 92122 (US). ZHANG, Erquan, Eric [CN/US]; 9268 Regents Road, Apt. E, La Jolla, CA 92037-1440 (US).

(74) Agent: HART, Daniel; Knobbe, Martens, Olson & Bear, LLP, 2040 Main Street, 14th Floor, Irvine, CA 92614 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

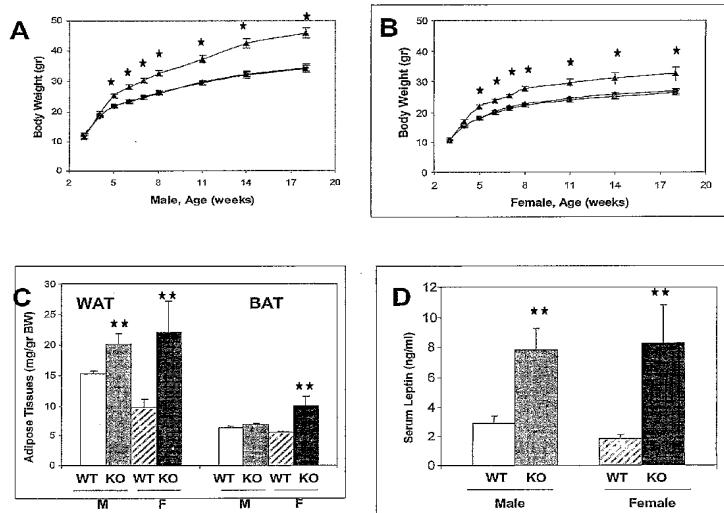
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

— without international search report and to be republished upon receipt of that report

[Continued on next page]

(54) Title: MODULATORS OF SHP2 TYROSINE PHOSPHATASE AND THEIR USE IN THE TREATMENT OF BODY WEIGHT DISORDERS



WO 2005/094314 A2

(57) **Abstract:** Described are methods and compositions for regulating body weight and/or regulating the rate of weight gain or loss, and particularly, for treating or preventing obesity. Specifically, methods of administering varying levels of Shp2 modulators to an animal, alone or in combination with body weight regulating agents are disclosed. Methods and compositions for treating a variety of disorders associated with or caused by undesirable body weight are also described. Also described are methods for identifying compounds useful for regulation of body weight and associated conditions. In particular, methods are disclosed for identification of compounds that preferentially modulate binding of Shp2 to leptin receptors. Also described is a genetically modified non-human animal model for studying the peripheral and central pathways of energy homeostasis. Also disclosed are methods of identifying compounds for regulating such pathways.



*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*